

## Abstract

A photoresist-free method for depositing films composed of metal and metal oxide from metal complexes. More specifically, the method involves the deposition of silver and silver oxide films by applying the amorphous film of a silver complex to a substrate. The silver complexes have the formula  $\text{Ag}_a\text{L}_c$ , wherein L is preferentially a ligand selected from the group consisting of acac, carboxylato, alkoxy, azide, carbonyl, nitrato, amine, halide, nitro, and mixtures thereof, and a and c are greater than one. These films, upon, for example, thermal, photochemical or electron beam irradiation may be converted to the metal or its oxides. By using either directed light or electron beams, this may lead to a patterned metal or metal oxide film in a single step.